

## ABSTRACT OF THE DISCLOSURE

Apparatus for acquiring an image of a specimen comprising a cassette having an optical portion holding a specimen array on a TIR surface and being removably matable to a processing portion having a polarized light beam source and a processing polarization-sensitive portion to image the spatially distributed charges in polarization of the specimen array. In one form the array optical portion comprises a transparent slide having a bottom surface with first and second gratings located to direct polarized light to the TIR surface and to direct light reflected by that (TIR) surface to an imager, respectively. The apparatus may include a flow cell integral with the optical portion as well as means for selecting the direction and wavelength of the polarized light.